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ABSTRACT

Successful large-scale school reforms require 5 years or more of a superintendent's attention. There is an implication that excessively short tenures, particularly if experienced in a brief span of time, could prove detrimental to systemwide improvement efforts. This study examines the survival of school superintendents in office, using data from the period 1975-99. The longevity of superintendents in 292 school districts was investigated. Data were analyzed by survival-analysis techniques using information on superintendent, district, board, and starting interval as predictors. Superintendent tenure has not changed significantly since 1975-79, averaging 6-7 years over the whole period. A number of factors were significantly related to survival in office: (1) level of school board involvement in management; (2) support for needed construction; (3) merger of school systems; (4) district poverty level; and (5) superintendents' postgraduate education. There also may be great value in exploring the ways in which belief in the "revolving-door superintendency," though a myth, has influenced, perhaps covertly, a range of leadership-related matters, such as hiring practices, superintendent salaries, and even the design of educational leadership curricula. (Contains 20 references and 10 tables.) (RT)

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Predicting and Modeling Superintendent Turnover

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Abstract

This study examines the survival of school superintendents in office, using data from the period 1975–1999. The longevity of superintendents in 292 school districts was investigated. Data were analyzed by survival analysis techniques using information on superintendent, district, board, and starting interval as predictors. Superintendent tenure has not changed significantly since 1975–1979, averaging 6–7 years over the whole period. A number of factors were significantly related to survival in office: (a) level of school board involvement in management, (b) support for needed construction, (c) merger of school systems, (d) district poverty level, and (e) superintendent's post-graduate education.

Predicting and Modeling Superintendent Turnover

Contemporary schools and school systems are under extraordinary pressure to overhaul practice in a variety of areas, including, but not limited to (a) implementation of standards and high-stakes testing, (b) shifting instructional and pedagogical strategies, (c) eliminating the minority-majority achievement gap, (d) using technology, ensuring diversity, (e) enhancing professional development, and (f) teacher certification. Accomplishing such large-scale organizational changes is generally thought to require stable, predictable top leadership, in order to maintain constancy of the institution's purpose over reasonably long periods of time. According to Fullan & Stiegelbauer (1991), for example, successful reforms require five years or more of a superintendent's attention, implying that excessively short tenures, particularly if experienced frequently in a brief period of time, could prove detrimental to system-wide improvement efforts.

Thus, superintendent turnover is an issue of potentially great significance to school improvement and reform. The topic has a long history, especially in urban systems (Lutz & Iannacone, 1986), and has received a great deal of attention for the last ten years (Renchler, 1992). We regularly read, in both research and popular sources, that superintendents average less than three years in office, and that the profession has become unstable (McKay & Grady, 1994; Johnston, 2000). Recent research, discussed below, has made it clear that "revolving-door superintendency" (RDS) is not nearly as widespread as is generally believed, and that the frequently cited and alarming average tenure statistic of 2.5 years drastically overstates the magnitude of turnover, creating an impression of a nationwide crisis where none exists. Nevertheless, there are school districts with histories of frequent turnover, and there is every reason to expect, on both experiential and theoretical grounds, that such systems are likely to be chaotic, to undergo frequent turnover of administrative

staff, and to be highly risk-averse—the type of organizations in which survival is a greater concern than productivity or school improvement.

There is not a very substantial, cumulated knowledge base about turnover, and much of the existing literature is polemic in nature, frequently citing tenure statistics that are, as we will show, very questionable. The present study seeks to extend the findings of earlier superintendent survival studies by using statistical modeling techniques to help identify combinations of variables that are important for the prediction of turnover.

Research on Superintendent Turnover

Though there is no substantial body of disaggregated, statistically valid generalizations about tenure/turnover, there are a number of studies, both qualitative and quantitative, with findings that suggest the types of variables that could help in its prediction.

The Dissatisfaction Theory of school governance (Iannacone, 1996; Lutz & Iannacone, 1986) describes the dynamics relating (a) community satisfaction, (b) school board elections, and (c) superintendent turnover. The theory holds that school communities undergo relatively long periods of electoral quiescence, reflected in stable membership of elected school boards. During these periods, however, stresses and dissatisfactions may build in various sectors of the community, eventually resulting in the defeat of elected school board members. Defeat of board members may, in turn, bring a shift in the political composition of the board, resulting in involuntary termination of the superintendent and his or her replacement from outside the district. The theory suggests, then, that a district's recent history of elected school board member turnover should be predictive of superintendent survival in office. This prediction has been confirmed in a number of studies

(Hosman, 1990; Moen, 1971; Walden, 1966), though not universally (Weller, Brown, & Flynn, 1991).

Not all research on superintendent turnover is grounded in theory. A considerable number of studies involve interviewing members of major stakeholder groups, such as school board members, retired superintendents, or community leaders, and asking about reasons for superintendents leaving their positions (Grady & Bryant, 1991; Metzger, 1997). The interview findings are usually grouped by common features, resulting in lists of items cited as contributing to turnover, such as (a) board member interference in management, (b) conflicts with staff, (c) cultural clashes between board members and superintendents hired from outside the district, and (d) sports-related conflicts, and many others.

Quantitative Studies

In terms of quantitative methodology, employee turnover can be subsumed under a category of research known as "time-to-event" (TTE) or "survival" studies (Morita & Lee, 1993). The distinguishing feature of such research is that the dependent variable is a measure of how long it requires for a critical event (e.g. leaving a position) to occur.

The use of TTE measures requires some caution. In most studies that collect such data it is not practical to delay analysis and reporting until every participant has experienced the critical event (turnover, onset of symptoms in medical research, etc.), so that TTE at the end of the study will often be lower than the value it would ultimately attain. This phenomenon, known in statistics as "right-censoring" (Kleinbaum, 1996), is not merely a type of missing data; it can cause traditional

parametric statistics, such as mean and variance, to be underestimated, often quite seriously, and in doing so can invalidate such methods as analysis of variance and linear regression.

Censoring (we will drop "right" from the term, since, though there are other types of censoring, none is of concern here; see Kleinbaum, 1996) has been an issue, though not always recognized as such, in all of the quantitative studies of superintendent turnover. In reviewing these studies, we will touch on how it is likely to have affected the results.

Published quantitative studies that address superintendent turnover have mainly been descriptive in nature, simply presenting tenure statistics for one or more time periods. In a search of the literature we found no studies in which turnover was disaggregated by characteristics of either districts or superintendents. Thus, the findings of these studies, reviewed below, provide information about average tenure and, in one case, trends over time, but not about the circumstances that favor short or long tenures.

Perhaps the earliest study to indicate that tenure in urban districts significantly exceeds 2.5 years was conducted by Yee and Cuban (1996), who presented virtually complete tenure statistics for superintendents of the nation's twenty-five largest districts for a period covering the entire twentieth century. They analyzed district records of complete tenure for superintendents who were in office at the beginning of every decade. Yee and Cuban were sensitive to the issue of censoring: their study was designed in such a way as to avoid its consequences as much as possible. The data were complete through 1980 and nearly so through 1990, allowing them to draw an accurate historical picture of tenure in these largest districts. The period from 1990 to 1996 was not included in the study, due to censoring.

The mean tenure for superintendents in office in 1990 was 5.76 years, indicating that at the time when belief the RDS was first gaining currency average tenure in large districts was more than twice as

long as the 2.5 years usually claimed. Other important results of the study are: (a) tenure has declined significantly since the middle of the last century, when it averaged 13 - 14 years; and (b) though tenure in 1990 was at it's lowest recorded point, there have been previous cycles of increase and decrease, even in recent decades.

Cooper, Fusarelli, and Carella (2000) conducted a large-scale national survey of superintendents' opinions, skills, career concerns, and future interests. One item on the survey instrument asked participants how long they had been in their current positions. The1688 respondents had been in office an average of 7.25 years, with superintendents of the 88 largest districts having served an average of 4.71 years. The extremely high mean (censored) tenure values may indicate sampling bias in the survey returns. Nevertheless, the results do not support the belief that RDS is widespread, either in the full range of districts or the large districts considered separately, and the likelihood of underestimation merely serves to emphasize this point.

The only study we have found in which average tenure is reported to be less than three years was reported in 1999 by the Council of Great City Schools (CGCS). As part of a larger membership survey, the 57 CGCS member districts were asked how long the current superintendents in their districts had been in their positions, and the results were used to compute average tenure. Mean tenure for the 48 (84%) districts responding to the survey was 2.33 years.

Two things must be borne in mind regarding these results. First, censoring is a highly significant issue here, because only incumbent superintendents were included. Second, our own analysis of the National Center for Education Statistics (NCES) Common Core of Data reveals that the average student population of CGCS member districts is approximately 25 times as large as the country's remaining urban systems (119,876 vs. 4,976). It is explicitly stated in the CGCS report that the findings are intended to apply to urban districts. Such a huge discrepancy suggests, however, that it

may be inappropriate to generalize from findings derived from the CGCS membership to the much broader class of districts to which the term "urban" is applied. While this study may be meaningful in its own terms, the scope for legitimate generalization of its findings is severely restricted.

The Superintendent Longevity and Time Study

Given the similar findings of two of the three studies discussed above, with their diverse methodologies, instrumentation, and populations as well as the seriously limited generalizability of the conflicting evidence, it seems clear that "revolving-door superintendency" is not a widespread problem. Otherwise, few well-established quantitative facts about turnover have emerged from previous studies. The research reported here was designed to remedy that situation by answering some basic questions: (a) what is the best estimate of current average superintendent tenure? Have survival trends changed over time? (b) Is tenure predictable from district demographics? (c) Is tenure predictable from characteristics of superintendents? (d) Can a multi-variable model successfully predict the likelihood of superintendent turnover?

Method

Overview.

A survey was designed to capture the tenure history of school districts for up to 12 superintendents. Also included on the instrument were questions about (a) demographics of the district, (b) individual superintendents, and (c) the school board. The survey was distributed to a size-stratified random sample of school districts throughout the Nation, as well as all public school districts in North Carolina. Survival analysis techniques were applied to the development of a model for predicting superintendent turnover, resulting in a model having five significant predictors.

Participants and Sampling.

The study included two distinct sets of public school districts: (1) all those in North Carolina (n = 117), and (2) a national random sample of school districts provided by the American Association of School Administrators (n = 462). Since the size of districts is commonly thought to be a significant factor in turnover, the national sample was stratified by student enrollment into the following groupings: less than1000 students, 1000 – 4999 students, 5000 – 9999 students, 10000 – 49999 students, and more than 50000 students.

The North Carolina data were intended as a crosscheck on the national findings. Comparing the two sets of results allows us to determine whether turnover follows the same pattern over time in both sets of data, in which case there would be additional evidence for the generalizability of the findings. Alternatively, differences between the state and national results could indicate substantive areas in which there may be important state or regional variation. The choice of North Carolina reflected an existing collaborative relationship, and had no intrinsic research significance.

Instrumentation.

A survey instrument was developed especially for this study. The instrument, **SLATS** (**S**uperintendent **L**ongevity **a**nd **T**ime **S**tudy), requests district staff to provide all of the information shown in Table 1. The form contained spaces for 12 superintendent entries, and information was requested separately for each superintendent from 1975 to 2000.

We were concerned to include as predictors variables frequently cited in the literature as being relevant to turnover. In order to maximize return rates, we screened predictor variables for ease of retrieval and for sensitivity of the requested information. It seemed unlikely, for example, that information on voluntary versus involuntary turnover would be readily available for superintendents exiting many years earlier, and it also seemed somewhat intrusive to request such

data. The survey was critiqued by a number of our colleagues as well as superintendents and other school administrators from several states. Extensive revisions were based on this feedback.

Table 1. Variables included in the SLATS survey.

School System Characteristics
Student population size: 1975 and 2000
Number of Schools: 1975 and 2000
Demographic setting: urban, suburban, small town, rural
Percent of students currently receiving free or reduced-price lunch
System budget: 1975 and 2000
Level of long-term community support for school construction and bonds
Growth of support for teachers association / union since 1975
Superintendent selection method: appointed or elected
Merger: was the district created through consolidation?
Superintendent Characteristics
Date first contract began
Data final contract ended (*or current contract ends*)
Age of superintendent based at beginning of first contract
Acting or regular appointment
Gender
Ethnicity: White, African-American., Spanish-American., Asian-American., Native American, Other
Level of postgraduate training
Hired from within or outside the district
School Board Characteristics
Elected or appointed school board
Number of members on school board
Number of school board positions turned over in most recent five years
Level of board engagement and activity
Level of board involvement in management

Procedure.

Somewhat different procedures were employed for distribution of the **SLATS** survey to North Carolina and National samples. The North Carolina surveys were given to participants in a statewide

superintendents' meeting conducted by the North Carolina Department of Public Instruction, where one of the authors addressed the group, reviewed the survey, and requested participation. Superintendents not in attendance received the survey by mail a few days after the meeting. The National sample received the survey exclusively by mail. Returns were tracked in a database, and follow-up letters requesting completion of the survey were sent out to nonparticipating districts immediately after the due date shown on the instrument.

Surveys were received from 95 of the 117 North Carolina districts, a return rate of 81%. The national sample returned 197 of 462 surveys, a rate of 42.6%. The extraordinarily high rate of return from North Carolina districts is likely due to the support of the State Department of Public Instruction, which allowed the survey to be presented and distributed at it's quarterly superintendent's meeting, and provided a letter of support to accompany the follow-up mailing.

Each district included in the analysis supplied data on one or more full time superintendents, and each superintendent was treated as an individual case in the analysis. The final dataset contained 280 superintendents from North Carolina and 612 from the national sample, for a total of 892 cases.

Data Analysis and Modeling.

Statisticians have developed special tools, known collectively as "survival analysis" (Kleinbaum, 1996), for analyzing TTE data and compensating for censoring. These techniques focus on how probability of the occurrence of the critical event (death, turnover, mechanical failure) is functionally related to time. The survival analysis method employed in this study, Cox Proportional Hazard regression (CPH), is one of the most frequently used of these techniques. It can be used in the same way as multiple linear regression to construct models in which the dependent variable is the probability of experiencing the critical event within any fixed period. CPH yields significance values for each of the predictor variables. Readers interested in application of survival methods to turnover

research should consult Morita and Lee (1993) for an extensive discussion of methodology and Padilla and Ghosh (2000) who applied the methods to analysis of turnover of university presidents.

Survival results are spread out over time, and thus are most easily understood with the use of graphics in which time is explicitly represented. We have developed a new graphical technique, the scenario graph, for depicting the effects of independent variables on survival. We will briefly illustrate the technique through an example.

In a hypothetical dropout prediction study a cohort of ninth – grade students is tracked throughout high school. If we drew a graph of the percentage remaining in school over the four years, it might resemble Figure 1: as time passes, the percent still enrolled gradually declines to about 62% after 48 months. Figure 1 is known in statistics as a "survival graph", a plot of time on the x-axis against proportion surviving, which in this case means likelihood of remaining in school, on the y-axis.

Information collected for the study includes socioeconomic class (lower, middle, upper), gender (male, female), and reading scores (low, medium, high) for each student, and all of these variables are used to derive a Cox Proportional Hazard regression. The resulting equation could then be used to generate prediction of survival probabilities for any period of time (12 months, 18 months, etc.) and we would expect that certain patterns of predictor values would result in steeply declining survival curves with low median tenure, and other patterns with more shallow decline and higher median tenure. Table 2 shows four such patterns. The rows of the table represent the following cases:

Case 1: All predictor values are set at levels that maximize overall survival probability.

Case 2: All predictor values *except for reading* are set at levels that maximize overall survival probability. Reading is set to a survival-minimizing value.

Case 3: All predictor values *except for reading* are set at levels that minimize overall survival probability. Reading is set to a survival-maximizing value.

Case 4: All predictor values are set at levels that minimize overall survival probability.

Comparison of survival estimates for cases 1 and 2 enables us to estimate the effect of low vs. high reading level on survival under conditions (values of the other covariates) that are otherwise optimal. Likewise, comparison of cases 3 and 4 can tell us the impact of reading level when other factors would lead to a prediction of high dropout rates. Figure 2 illustrates this comparison logic graphically by showing survival curves for each of the cases discussed above. We refer to this type of figure as a scenario graph, since it allows us to examine the effects of any independent variable under "best case" and "worst case" scenarios. In presenting the results of the survival analyses for the present study we make use of scenario graphs in most cases, along with tables of median tenure, to illustrate the effects of important predictors.

Table 2. Dropout study - Best and Worst Case Predictor Values

Case	SES	Gender	Reading	Predicted % Survival at 4 Years
1	High	Female	High	85
2	High	Female	Low	66
3	Low	Male	High	60
4	Low	Male	Low	45

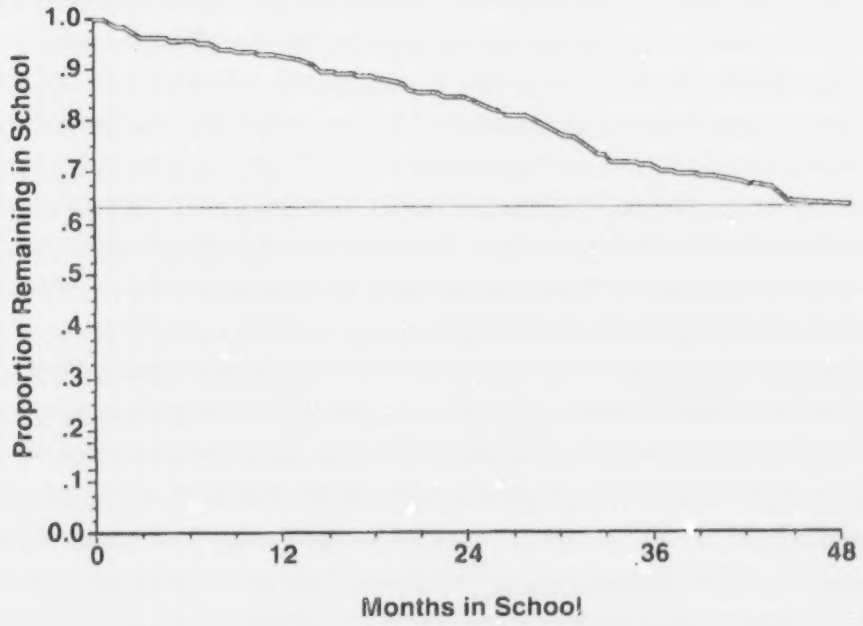

Figure 1. Aggregate survival curve – hypothetical dropout study

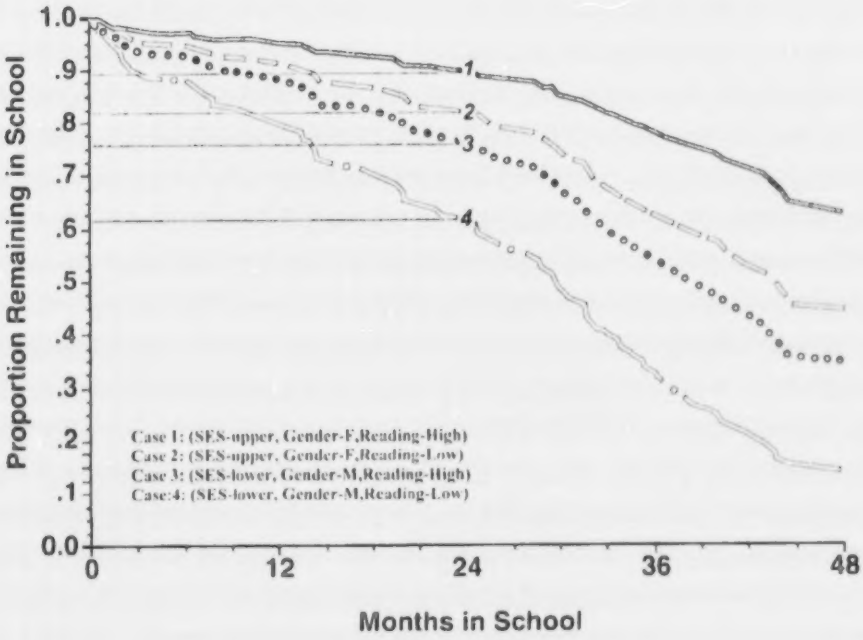

Figure 2. Scenario Graph – effect of reading level - hypothetical dropout prediction study

Modeling of superintendent survival.

Analysis began by entering the predictors shown in Table 3 as independent variables into a Cox Proportional Hazards stepwise procedure, with years in office as the dependent variable. Certain variables, such as system budgets and 1975 enrollment, were excluded because of extremely high rates of missing data, which may reflect demographic bias. The stepwise procedure automatically selected the best-fitting model for the given set of covariates, requiring that all included predictors be significant beyond the .05 level.

Censored TTE measures are ordinarily not normally distributed, tending instead to be strongly skewed to the left, and medians are generally to be preferred to means as descriptors of central tendency in survival analysis (Hosmer & Lemeshow, 1999, p.52). Medians for this study were estimated by the Kaplan-Meier method of survival analysis, which incorporates as much of the censored data as possible into the computation.

Analyses excluded acting or temporary superintendents, since individuals hired in a temporary capacity ordinarily do not intend to remain in office for nearly as long as regularly appointed superintendents. In addition, only superintendents whose terms began after 1974 were included in the analyses.

Results

North Carolina and National Samples.

A CPH model incorporating the variables shown in Table 3 was first used to test for differences between the North Carolina and National samples. Significance tests for individual variables are those obtained from the Cox regression procedure.

The only significant difference between the groups had to do with merger of school districts: the North Carolina districts that were formed through unification of previously distinct school systems show a much higher rate of subsequent superintendent turnover than do other districts in the state. Merger was not significantly related, though, to survival time in the National sample. Scenario graphs in Figures 3a and 3b and the medians in Table 4 illustrate these results.

Table 3. Variables in the initial stepwise Cox Proportional Hazards Regression

Variable
District size
Demographic setting
Percent of students receiving free or reduced-price lunch
Age of superintendent based on year of birth
Gender of superintendent
Superintendent's ethnicity
Increasing support for unions
Training: highest earned academic degree
Hired from within or outside the district
Elected or appointed school board
Level of school board member turnover in five year period
Level of board engagement and "activity" or "inactivity"
Level of board involvement in management
Merged or non-merged district
National or NC district
Interaction terms: designed to test whether effects of other independent variables were the same in NC and National samples

Table 4. Median tenure for merged vs. non-merged districts by sample

Population	Merger Status	Median Tenure	Standard Error	N	Percent Censored
National	Not merged	6.5	.31	529	30.8
	Merged	5.5	.55	78	29.5
North Carolina	Not merged	7.5	.38	182	31.3
	Merged	5.5	.30	97	32.0

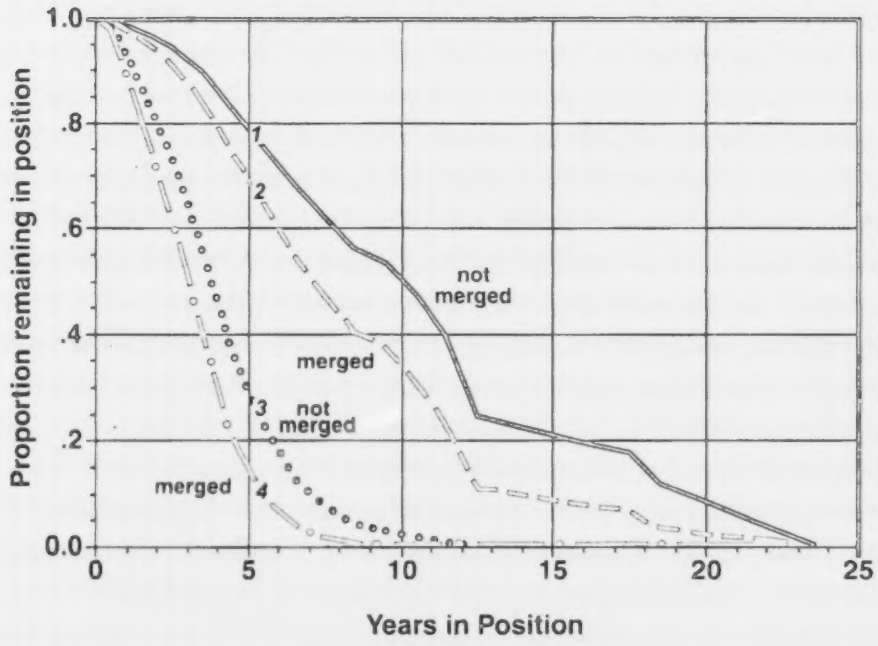

Figure 3a. Scenario Graph – effect of school system merger in North Carolina

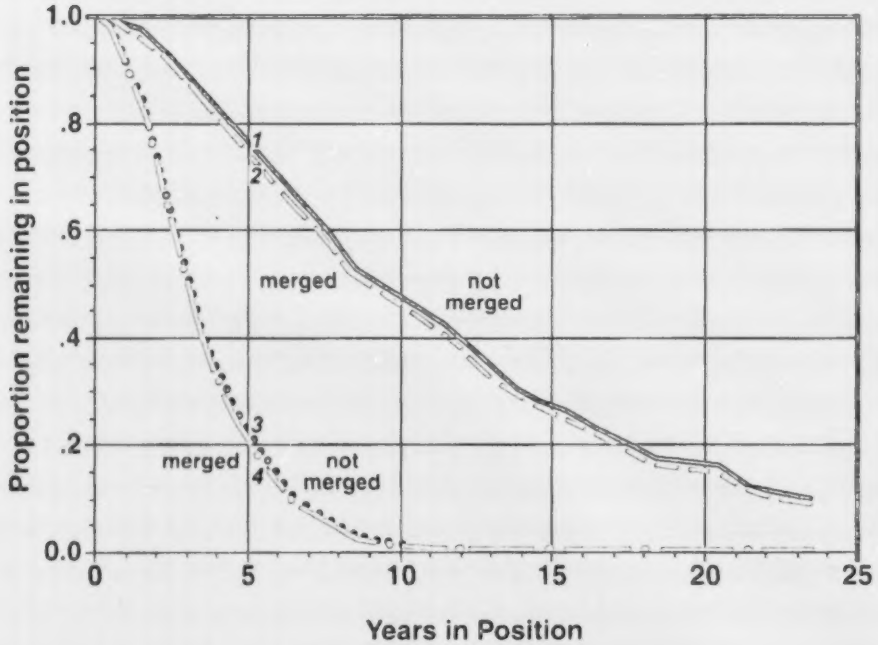

Figure 3b. Scenario Graph – effect of school system merger in National sample

Baseline regression model.

Since there was only one significant difference, the merger effect, between North Carolina and National samples, it was decided to pool the datasets for subsequent analyses in order to increase the total sample size and obtain more precise parameter estimates. The resulting model, shown in Table 5, was used as a baseline for examining effects of individual factors in the following analyses.

As the table shows, there were five significant predictors of survival probability: (a) support for construction, (b) board involvement, (c) district poverty level, (d) the merger effect discussed previously, and (e) educational level attained by the superintendent.

Table 5. Baseline Cox Proportional Hazard Regression Equation

Variable	Regression Coefficient	Standard Error	Degrees of Freedom	P- Level
Construction support	-.133	.042	1	.001
Board involvement	-.150	.053	1	.005
District poverty level	.105	.041	1	.010
NC/National x merger	.354	.145	1	.015
Highest degree earned			5	.006
Doctorate	1.508	1.235	1	.222
Master's Plus	1.846	1.002	1	.066
Master's	1.792	1.004	1	.074
Bachelor's	1.296	1.008	1	.023
Other	1.358	1.425	1	.341

Changes in tenure since 1975.

Table 6 presents median tenure estimates for superintendents beginning their first term in a particular district during each five-year interval (pentad) from 1975 -1979 through 1990 - 1994. The medians fluctuate over time, and the overall median dropped approximately one year over the interval; this difference was not significant ($p = .586$). Figure 4 presents scenario curves for the two

pentads 1975 - 1979 and 1995 - 1999, which confirm and elaborate the median results, showing no significant downward trend in superintendent survival over the interval. These results confirm and extend those of the quantitative studies discussed earlier, showing that (1) average tenure is more than double the 2.5 years commonly cited (Yee & Cuban, 1996; Cooper et al., 2000), and (2) that tenure has not significantly declined over the past twenty-five years (Yee & Cuban, 1996).

Table 6. Median tenure by pentad

Pentad	Median Tenure	Standard Error	N	Percent Censored
1975 – 79	7.5	.44	153	1.96
1980 – 84	7.5	.34	124	4.03
1985 – 89	6.5	.30	173	12.14
1990 – 94	6.5	.33	196	29.59
1995 - 99	*	*	240	77.92

* Medians could not be computed for 1995 – 99 because of excessive censoring

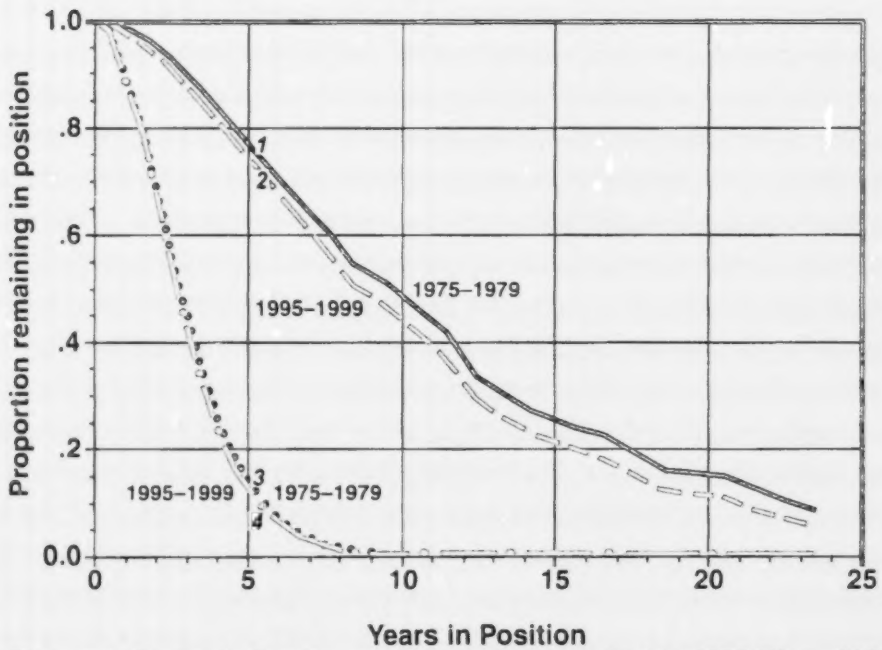

Figure 4. Scenario Graph – superintendent survival in 1975-79 vs. 1995-99

Long-Term Community Support for School Construction.

One SLATS item asks participants to rate community support for school construction and bonds on a scale of 1 (Very Weak) to 5 (Very Strong). The results, shown in Table 7 and Figure 5, are highly significant ($p < .001$). Median tenure increases from 5.5 – 6.5 at the lower scale points to 7.5 – 8.5 at the higher end. The differences between survival curves for low and high support levels at five and ten years show that this variable is strongly related to tenure in both best and worst case scenarios.

We are not surprised at the powerful role community support for school construction plays in turnover, but it would be valuable to have a deeper understanding of the dynamics involved. Does it serve as a referendum on the superintendent's leadership or credibility? Does it reflect superintendents' judgments that they lack the support to do an adequate job? Further research may help to clarify the importance of this factor.

Table 7. Median tenure by level of support for construction

Support Level	Median Tenure	Standard Error	N	Percent Censored
Very Weak	6.5	.61	56	28.6
Weak	5.5	.45	115	22.6
Moderate	6.5	.28	272	29.0
Strong	7.5	.55	257	33.4
Very Strong	8.5	.84	186	36.0

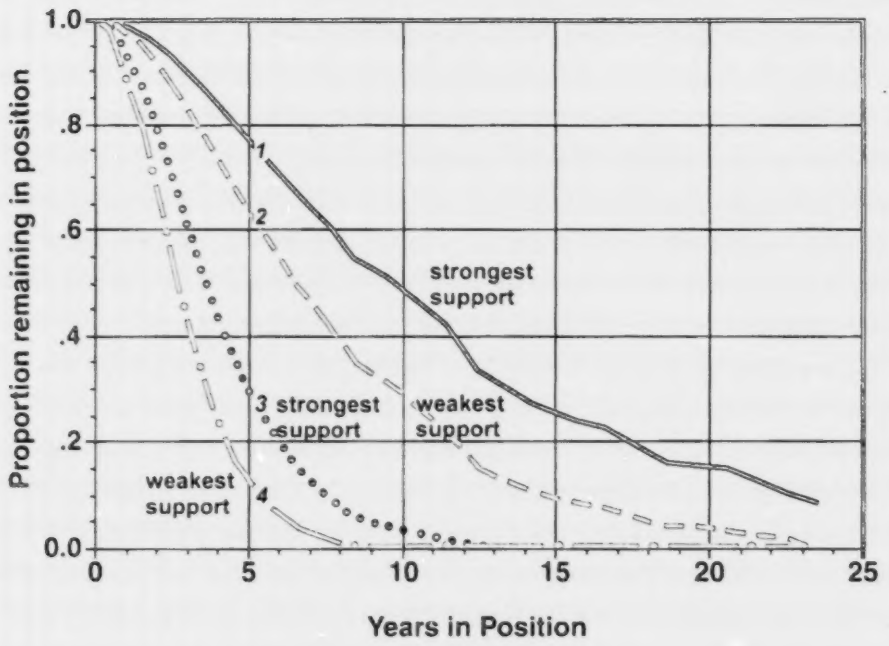

Figure 5. Scenario Graph – effect of community support for school construction

School board involvement in management.

In qualitative studies superintendents often cite the involvement of school board members in management activities as a major irritant and reason for turnover (Grady & Bryant, 1989). A SLATS survey item asks participants to rate the frequency with which board members become involved in the superintendent's areas of responsibility. The results (see Table 8 and Figure 6) are significant at the .005 level and appear to agree with the qualitative findings: Median tenure at the lowest levels of involvement,"Seldom" and "Occasional", was 7.5 years, while at the highest level ("Frequent"), was 5.5 years. While significant, the differences at five years are comparatively small, as shown in Figure 6.

Table 8. Median tenure by level of board involvement in management

Board Involvement	Median Tenure	Standard Error	N	Percent Censored
Seldom	7.5	.47	409	34.0
Occasional	7.5	.38	190	30.5
Frequent	5.5	.26	271	26.9

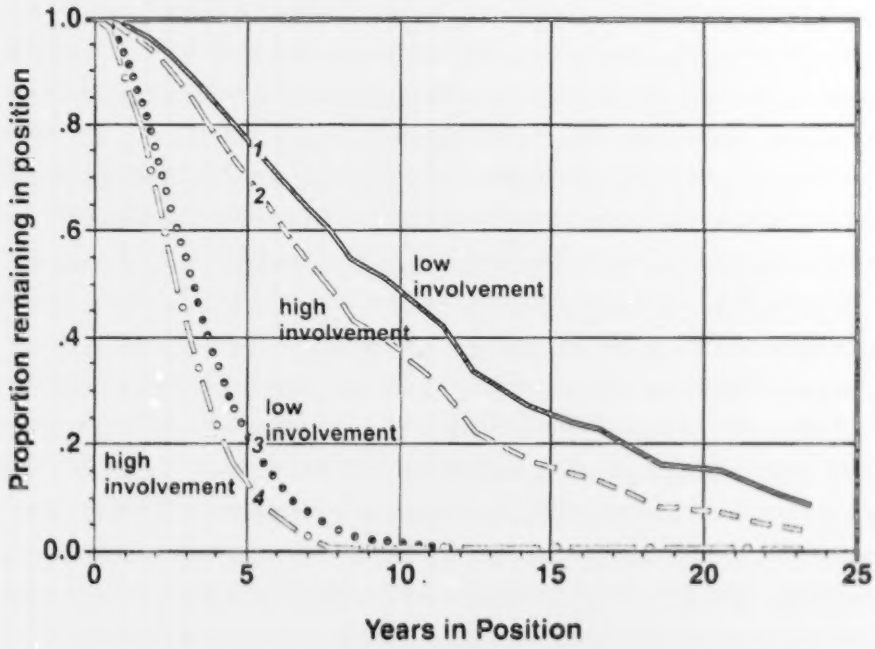

Figure 6. Scenario Graph – Effects of School Board member involvement in management

District poverty level.

In order to examine the relation of district poverty level to survival probability, percent of students receiving free (or reduced-price) lunch, a commonly used indicator of poverty, was grouped into five intervals, ranging from 0 – 19 percent to 80 – 99 percent. The results, shown in Table 9 and Figure 7, were highly significant ($p = .010$). Median tenure decreased from 8.5 years in the range 0 – 19 percent free lunch to 5.5 – 6.5 years in the highest ranges. Graphically the differences appear to be relatively small, but stable over time.

Table 9. Median tenure by district poverty level

District Poverty Level	Median Tenure	Standard Error	N	Percent Censored
00 - 19	8.50	.89	129	37.2
20 - 39	7.50	.40	263	33.8
40 - 59	5.50	.32	248	28.2
60 - 79	5.50	.48	141	25.5
80 - 99	6.50	.84	30	26.7

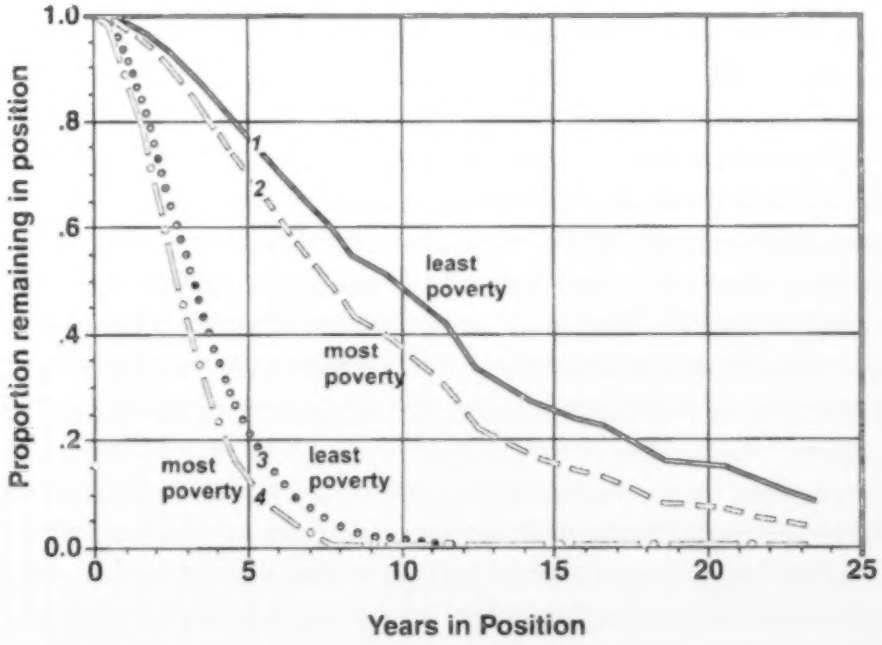

Figure 7. Scenario Graph – effects of district poverty level

Educational level attained by the superintendent.

Figure 8 and Table 10 show the differences in survival for superintendents attaining varying levels of postgraduate education. The results were highly significant (p. = .006), with median tenure increasing approximately one year for each level of educational attainment (Masters, Masters+, Doctorate). Comparison of survival graphs shows this to be a powerful effect, both in best and worst cases.

Table 10. Median tenure by superintendent's highest educational level

Highest Degree Earned	Median Tenure	Standard Error	N	Percent Censored
Doctorate	7.50	.32	526	33.1
Masters +	6.50	.37	263	33.5
Masters	5.50	.44	75	4.0

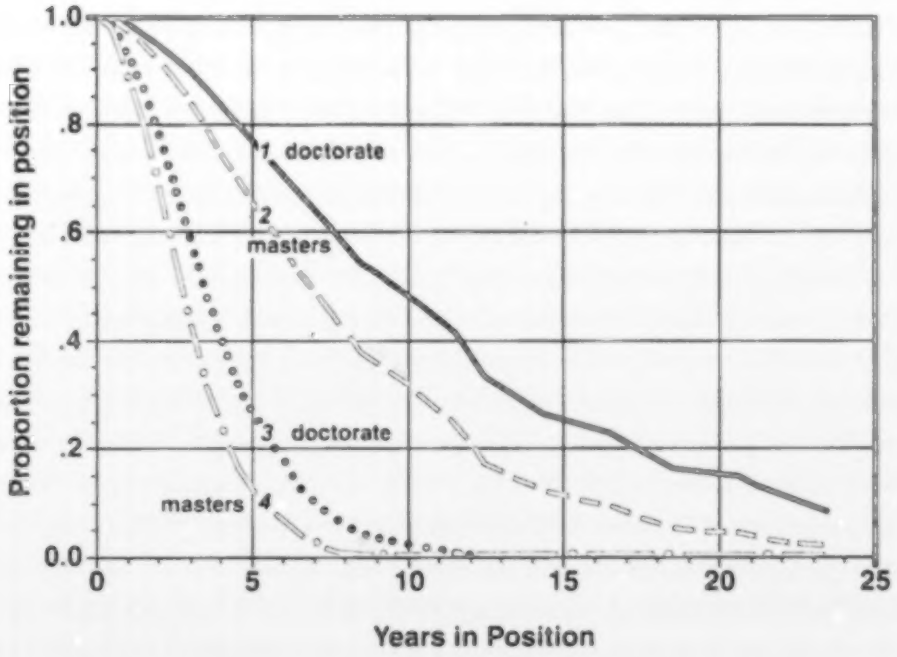

Figure 8. Scenario graph – highest academic degree attained by superintendent

Cumulative effect of significant predictors.

While we have focused on the effects of individual predictors, it is important to note that the total regression, including all five variables, is highly significant (p. = .000). In other words, superintendent survival is highly predictable from the combination of these variables. That fact is reflected in the scenario graphs in Figures 4 through 8 by comparison of the curves representing

scenario Cases 1 and 4; this comparison shows the combined effect of all predictors. At five years, for example, the model shows an expected survival rate of 77% for Case 1, and only 12% for Case 4.

Thus, while frequent superintendent turnover is not as serious a problem as generally believed, our results make it possible to identify conditions under which it is highly likely. We would expect, for example, that under combined conditions of (a) high poverty, (b) low support for construction, and (c) school board micromanagement, we would find very short average tenure.

Non-significant factors.

None of the following variables significantly increased the predictive power of the equation in Table 5: (a) superintendent's age at beginning of contract, (b) gender, (c) district size, (d) demographic setting, (e) change in support for unions, (f) size of school board, (g) school board member turnover, (h) board activity level, or (i) internal vs. externally recruitment of the superintendent.

District size and demographic setting are commonly thought to bear on superintendent turnover, but our results don't bear out that belief. It may be, however, that in the largest districts, having hundreds of thousands of students, turnover is a qualitatively different phenomenon, discontinuous with our model. Only ten of our responding districts had over 100,000 students, so we cannot speak authoritatively of such districts. In retrospect it seems likely that the method used for measuring quantity of board turnover in SLATS may have been too coarse to detect its effects; at least, that possibility prevents us from asserting that this variable has no predictive value.

Discussion

End of the revolving-door myth?

The results of this study show that public school superintendency is not a revolving-door profession, whether in small districts or large, urban or rural, in the mid 1970's or the late1990's, in the Nation as a whole or in a single southeastern state. Contemporary superintendents, on average, remain in office between 6 and 7 years.

In their ten-year study of the superintendency, Glass, Björk, and Brunner (2000, V) stated "the tenure figure has had a life of its own. Unfortunately, it has fostered a negative image of the superintendency." Since the 2.5-year figure seems to have thrived in spite of readily available contradictory facts, we would have to agree. Glass, Bjork, and Brunner (2000, p. V) also assert that belief in the RDS has fostered a negative image of the superintendency. We again agree, and believe that the myth may have had many other negative consequences, which we have elaborated elsewhere (Natkin, Cooper, Alborano, Padilla, Ghosh, & Fusarelli, 2002). The results of the current study should help put the myth to rest.

The merger effect

We have found that turnover was related to school system mergers in North Carolina, but not in the national sample. Consolidation of school systems can be traumatic, so we might well expect mergers to result in superintendents moving on sooner rather than later. Such an explanation, though, does not fit the results of this study very well. There is no obvious reason why job stress resulting from merger would be a problem in North Carolina, or any one state, but not the rest of the Nation.

An alternate, admittedly speculative, explanation draws on two relevant findings. First, in the previously mentioned study of Cooper, Fusarelli, and Carella (1999), it was found that superintendents, when they relocate, prefer to remain in the state in which they have been employed. Second, our data show that 35.9% of responding North Carolina districts, compared to 5.4% of those

in the National sample, had been created through consolidation. Every merger of school systems results in at least one superintendent position being eliminated, so North Carolina may frequently have had an oversupply of superintendents. Consequently, school boards contemplating replacement of their CEO's may have had many in-state candidates available. That may have made recruitment simpler, and perhaps less expensive, than it would otherwise have been, and perhaps encouraged involuntary turnover.

Directions for future research

The findings of the SLATS study open up a number of possibilities for future research on superintendent turnover. We will touch briefly on a few of the most important issues.

The National vs. North Carolina merger results point to some potentially fruitful research questions: (a) what is the mechanism behind the merger effect in NC? (2) Do other states with histories of frequent district consolidations also exhibit the same effect on turnover? (3) Are there regional differences in turnover?

Some of the findings of this study could be clarified by incorporating the results of qualitative studies into surveys. While this study shows, for example, that board members' direct involvement in administrative matters plays a role in superintendent turnover, the behavior described by the survey item measuring such involvement is not entirely clear. If the prediction model were to incorporate the much more detailed class of events presented by Grady & Bryant (1989), which they describe as "board members problematic interpretations of their roles," we might well improve both its' accuracy and our understanding of the issues. Similar remarks would apply to community support for needed construction and poverty: both are multifaceted concepts, and both prediction and understanding should be improved by incorporating more of their complexity into this type of research.

Implications for practice & policy

Though all the findings of this study suggest directions for practice and policy, confirmation that the "revolving-door superintendency" is a myth should have the most immediate consequences. While RDS not a widespread problem, the fact that it has long been an article of faith may be the source of many difficulties. Immediate efforts at countering this belief, undertaken by (a) organizations of administrators (b) school board associations, (c) state school agencies, and (d) university educational leadership programs, would be extremely beneficial. In the longer term there would likely be great value in exploring the ways in which belief in the RDS has influenced, perhaps covertly, a range of leadership-related matters, such as hiring practices, superintendent salaries, and even the design of educational leadership curricula.

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